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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,306	12/19/2001	Josh N. Hogan	10005067-1	3380

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

PEUGH, BRIAN R

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,306

Applicant(s)

HOGAN, JOSH N.

Examiner

Brian R. Peugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 10-17 and 24-26 is/are allowed.
6) ☒ Claim(s) 1,9,18,23 and 27 is/are rejected.
7) ☒ Claim(s) 2-8,19-22 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/30/04
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on August 30, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

Claims 2-16 and 18-23 are objected to because of the following informalities:

Regarding claims 2-9 and 11-16: Insert --data storage-- before device in line 1 in order to provide proper antecedent basis for the claimed subject matter.

Regarding claim 10, line 5: Replace "in" with --on--.

Regarding claim 18, line 2: Insert --further-- after "apparatus" in order to provide proper antecedent basis for the claimed subject matter.

Regarding claim 19, line 1: Insert --control-- before "circuit" in order to provide proper antecedent basis for the claimed subject matter.

Regarding claim 22, line 1: Insert --control-- before "circuit" in order to provide proper antecedent basis for the claimed subject matter.

Claims 20, 21, and 23 are objected to as being dependent upon a previously objected claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9, 23, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "full user block data size" in line 3. There is insufficient antecedent basis for this limitation in the claim. Neither a "full user block data size", nor a "block size" of any kind had not been previously claimed, and the Examiner is unclear as how to interpret the value the "full user block size" represents in relation to the non-volatile memory. The Applicant is encouraged to amend the claim in order to provide proper antecedent basis.

Claim 23 recites the limitation "the device" in line 1. There is insufficient antecedent basis for this limitation in the claim. A "device" had not been previously claimed, and it is unclear to the Examiner whether this "the device" corresponds to the "apparatus" or the "control circuit", as previously claimed, or another component not previously recited. The Applicant is encouraged to amend the claim in order to provide proper antecedent basis.

Claim 27 recites the limitation "the corrected user data" in line 3. There is insufficient antecedent basis for this limitation in the claim. A "corrected user data" had not been previously claimed. The Applicant is encouraged to amend the claim in order to provide proper antecedent basis.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 9, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Gonzalez et al. (US# 6,684,289).

Regarding claim 1, Gonzalez et al. teaches **a data storage device [memory system; Figure 1] comprising: write-once memory [Fig. 1; Program Memory (27); col. 5, lines 14-18]; non-volatile memory [Flash memory (17); col. 5, line 24]; and a circuit for writing user data to the write-once memory [col. 5, lines 9-15; memory (27) inherently requires the programming of data useful to the user, thus 'user data' is stored in the memory] and storing in the non-volatile memory at least one of the user data and error correction data [col. 5, lines 29-42; the ECC is stored in memory (17)].**

Regarding claim 9, and in light of the 35 U.S.C. 112, 2nd paragraph rejection above, Gonzalez et al. teaches **wherein storage capacity of the non-volatile memory is less than full user data block size [col. 1, lines 35-38; user data is "preferably", but not restricted from, being at least as large or greater than the size of the memory block, and it is notoriously well known in the art that memories may be configured according to any desired capacity, and thus may be of one block size].**

Regarding claim 18, Gonzalez et al. teaches **an apparatus for a data storage device** [memory system; Figure 1] **including write-once memory** [Fig. 1; Program Memory (27); col. 5, lines 14-18] **and non-volatile memory** [Flash memory (17); col. 5, line 24], **the apparatus comprising a control circuit for writing user data to the write-once memory** [col. 5, lines 9-15; memory (27) inherently requires the programming of data useful to the user, thus 'user data' is stored in the memory] **and storing in the non-volatile memory at least one of the user data and the error correction data** [col. 5, lines 29-42; the ECC is stored in memory (17)].

Allowable Subject Matter

Claims 23 and 27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 2-8 and 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 10-17 and 24-26 are allowed over the prior art of record.

Claims 2-8, 10-17, 19-22, and 24-26 contain allowable subject matter. The following is an examiner's statement of reasons for allowance: The prior art of record teach OTP and non-volatile memory systems but fail to recite the combination including:

(Claim 2) Storing an incomplete block of user data in the non-volatile memory, the circuit uses the stored user data to form a full block when new user data is received and wherein the circuit generates error correction data for the full block, and writes the full block of user data and the error correction data to the write-once memory.

(Claims 3 and 19) Storing an incomplete block of user data in the write-once memory, the circuit generating error correction data for the full block including the user data and padding, and storing at least some of the error correction data in the non-volatile memory.

(Claim 10) A device comprising a substrate, at least one level of solid state one-time programmable memory on the substrate, non-volatile memory on the substrate, and a circuit for writing user data to the write-once memory and using the user data to create error correction data.

(Claims 17 and 24) Storing the incomplete block in the write-once memory, adding padding to the incomplete block to form a padded block means for generating error correction data for the padded block.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art corresponds to related OTP and non-volatile memory systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Peugh whose telephone number is (571) 272-4199. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Friday's from 7:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks, can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'B. R. Peugh', with a long horizontal flourish extending to the right.

Brian R. Peugh
Patent Examiner
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11/23/04